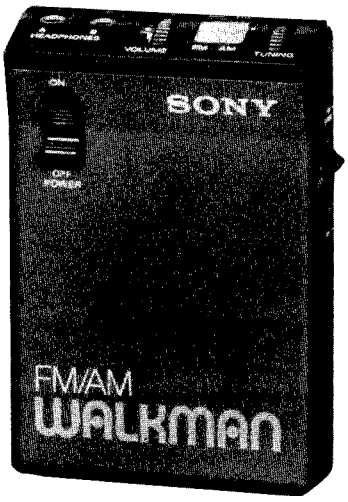
SRF-33W

SERVICE MANUAL



AEP Model
UK Model
E Model

SPECIFICATIONS

Frequency range:	FM87.5—108MHz AM530—1,605kHz
Antennas:	FM: Headphone cord antenna AM: Built-in ferrite bar antenna
Power output:	20mW + 20mW (at 10% harmonic distortion) with headphones having impedance of 32 ohms at dc operation
Output:	Two headphone jacks (stereo minijack) load impedance 32 ohms
Power requirements:	3V dc, two batteries IEC designation R6 (size AA)
Dimensions:	Approx. 78 x 110.5 x 31mm (w/h/d) ($3^{1}/_{16} \times 4^{11}/_{32} \times 1^{7}/_{32}$ inches) incl. projecting parts and controls
Weight:	Approx. 180g (6.3 oz) incl. batteries

MICROFILM

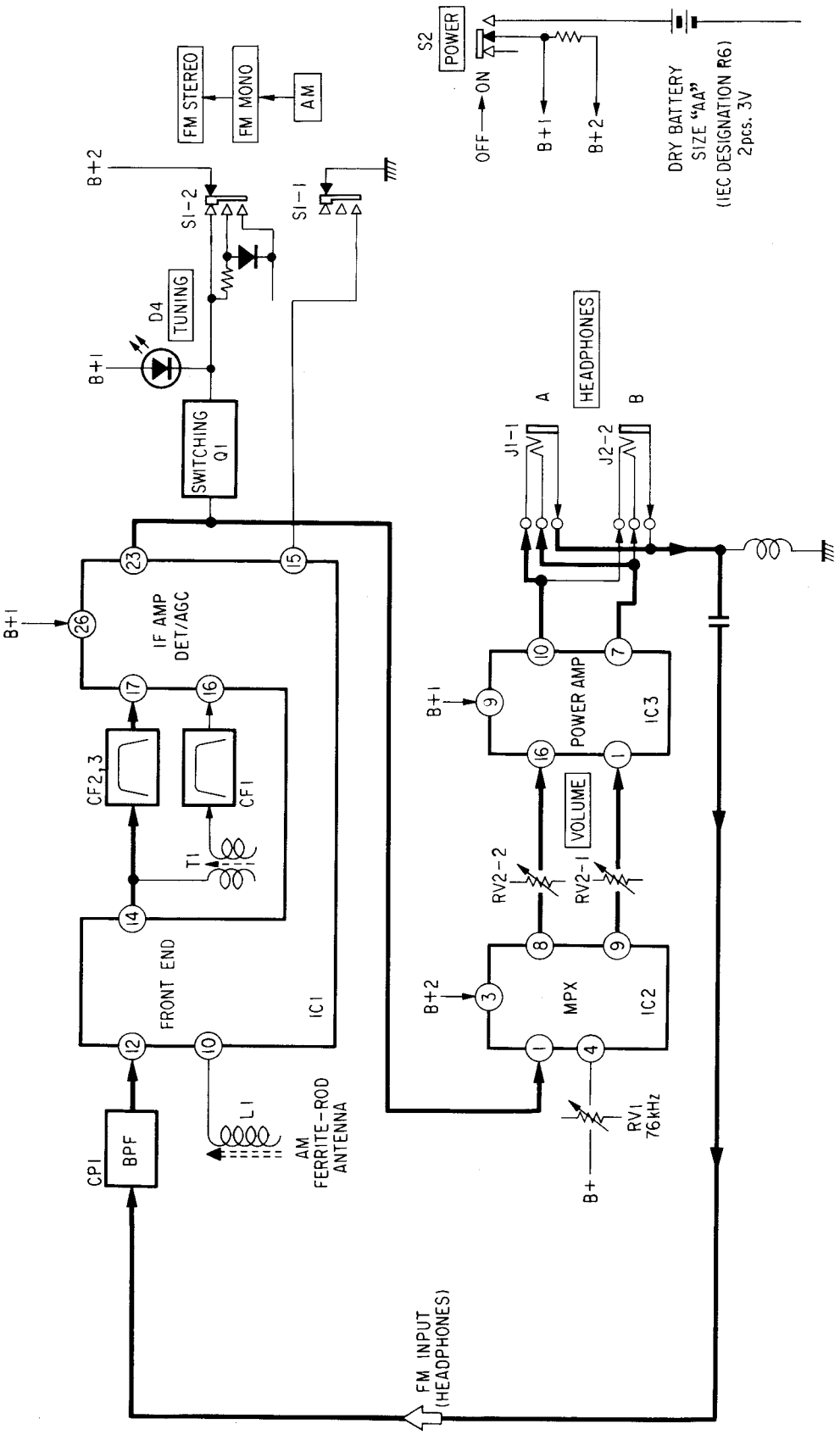
FM STEREO/FM-AM RECEIVER

SONY®

TR

SECTION 1
OUTLINE

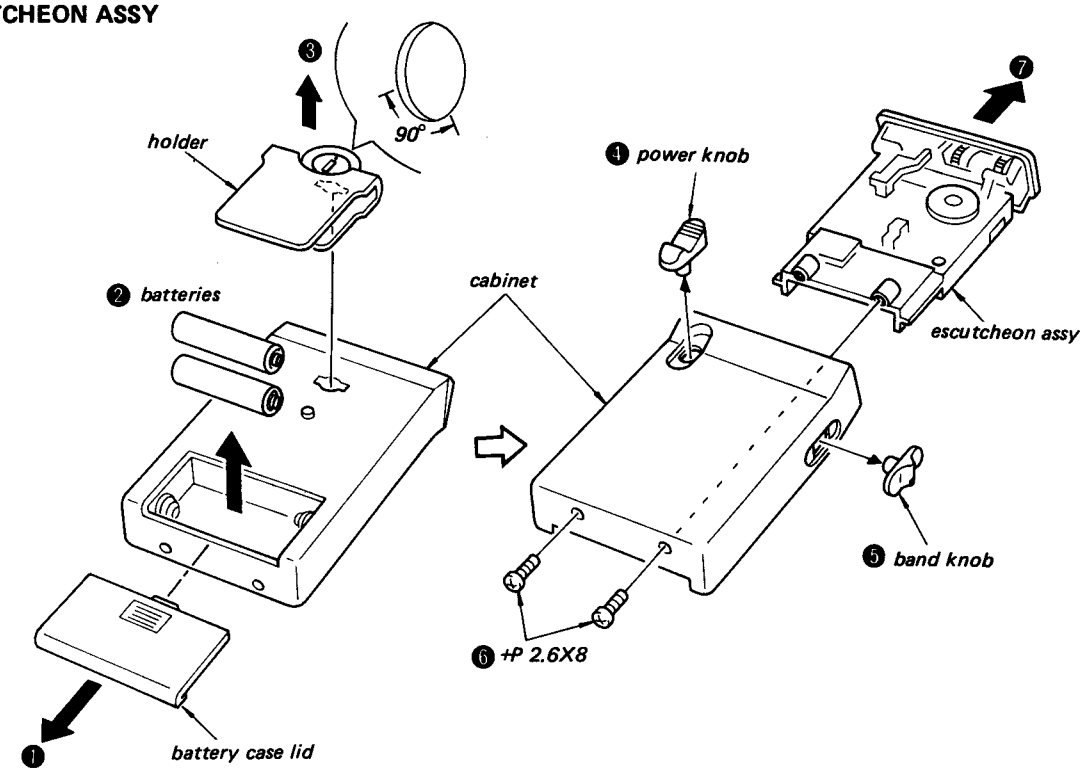
1-1. BLOCK DIAGRAM



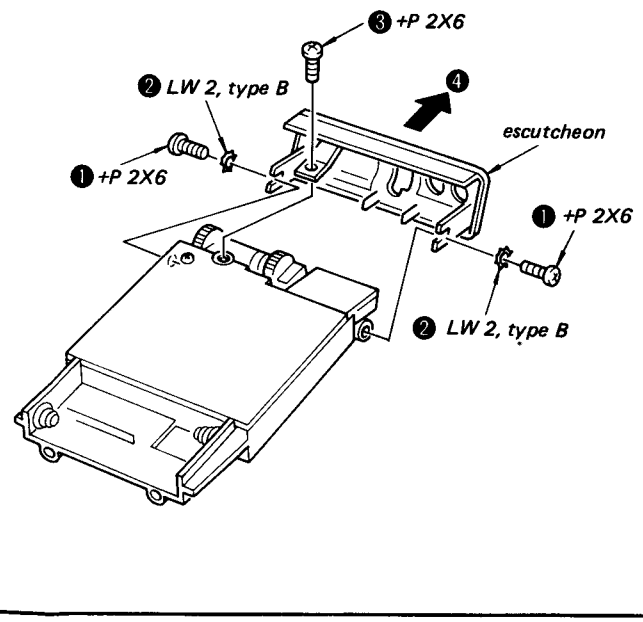
SECTION 2
DISASSEMBLY

- Follow the disassembly procedure in the numerical order given.

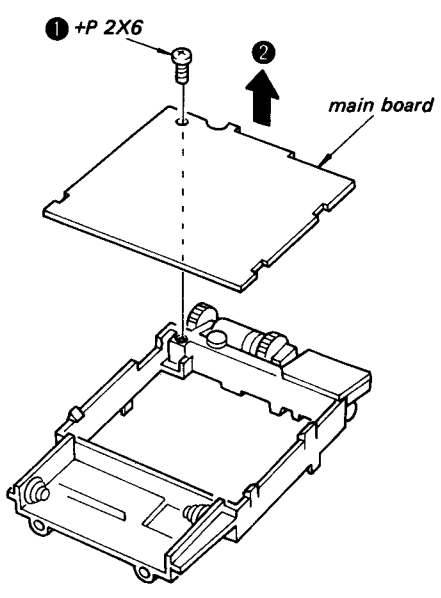
BATTERY CASE LID, HOLDER AND ESCUTCHEON ASSY



ESCUTCHEON



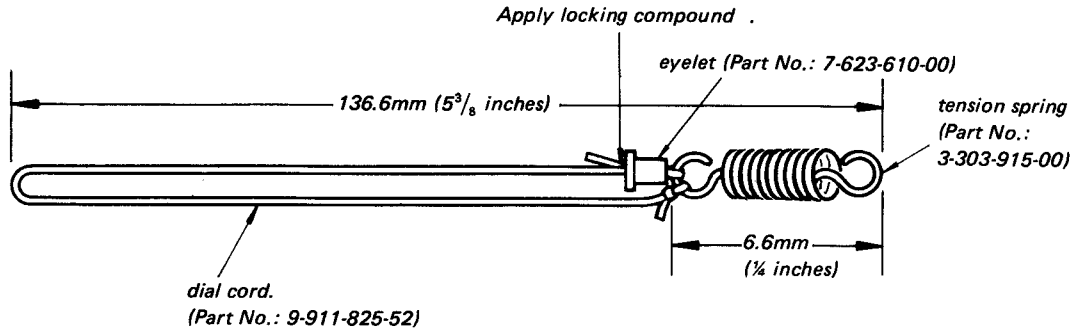
MAIN BOARD



Dial Cord preparation

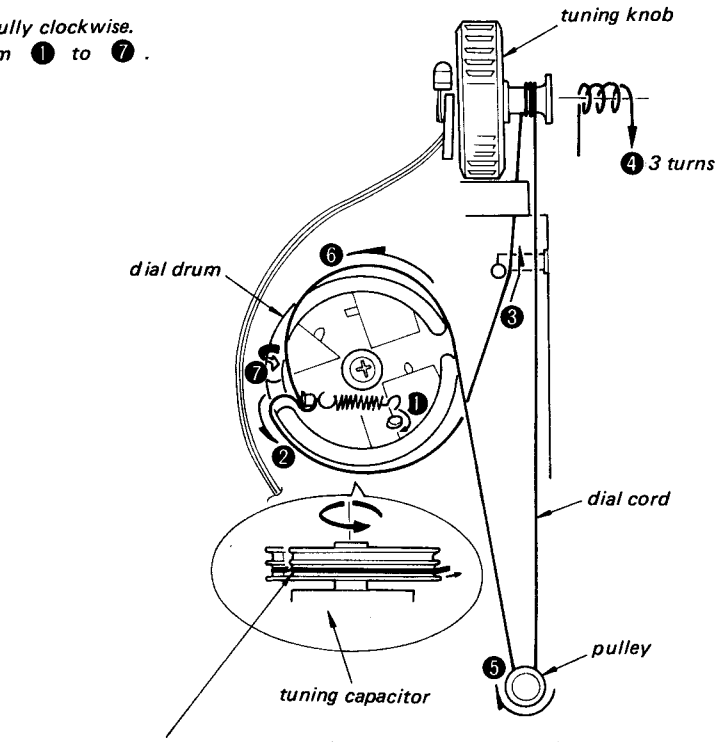
Two needed.

1-1. Dial Cord preparation



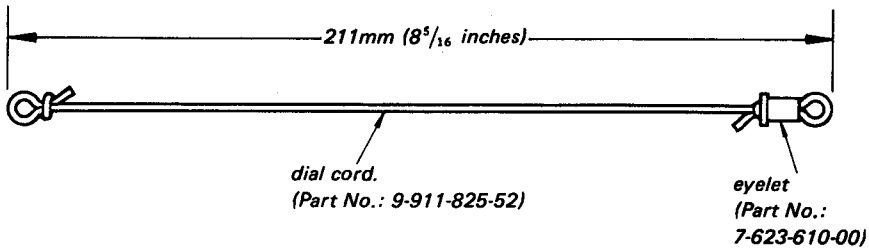
1-2. Dial Cord Stringing

1. *Turn the dial drum fully clockwise.*
2. *String as follows from* ❶ *to* ❼ .



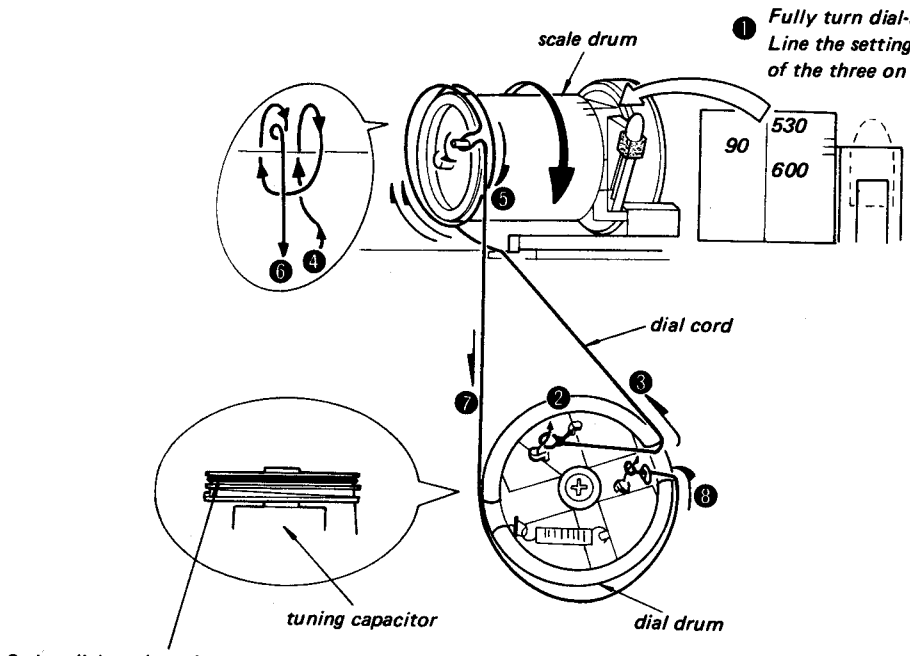
String dial cord on the lower side (or tuning-capacitor side) groove of the dial drum.

2-1. Dial Cord Preparation



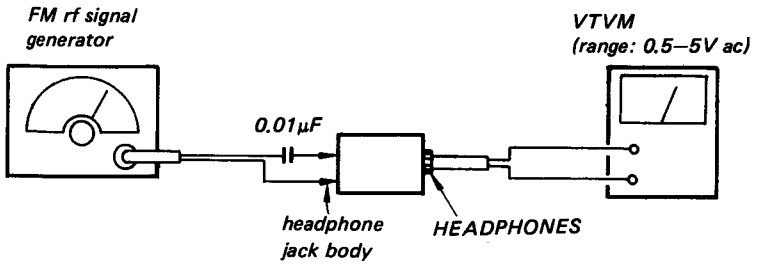
2-2. Dial Cord Stringing

String as follows from ❶ to ❽.


❶ Fully turn dial-scale drum counterclockwise. Line the setting edge with the center line of the three on the drum.
scale drum
90
530
600
dial cord
tuning capacitor
dial drum
String dial cord on the upper side groove of the dial drum.

SECTION 3
ADJUSTMENTS

FM SECTION

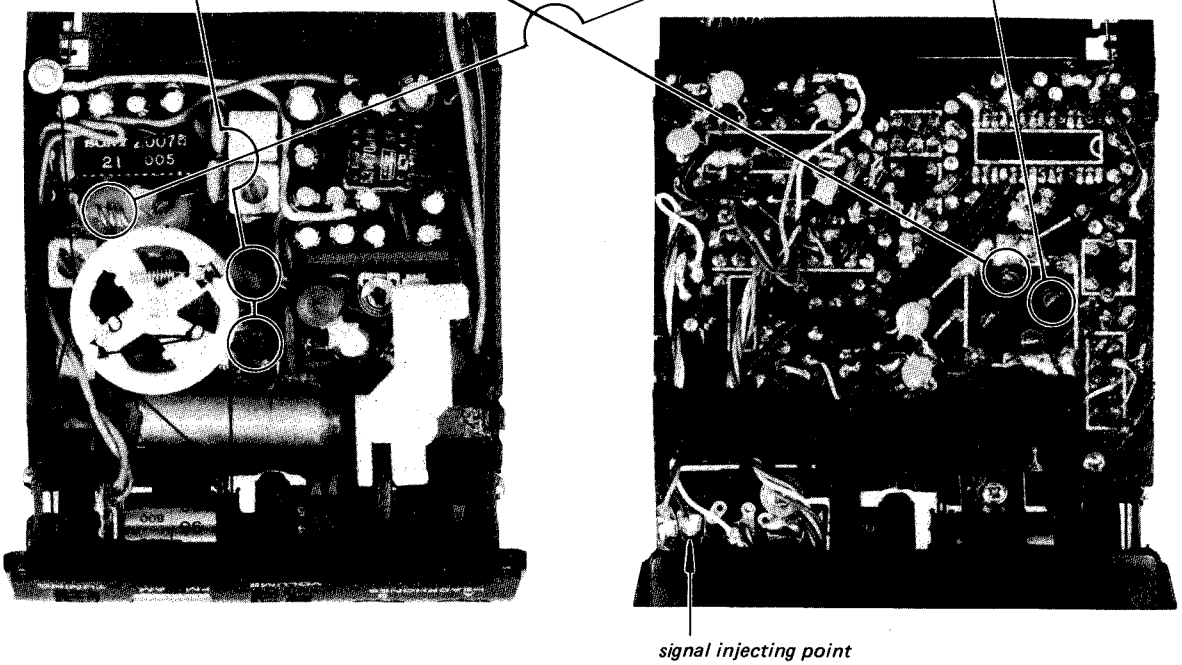


30% frequency modulation by 400 Hz signal.
±22.5 kHz frequency deviation.
(Modulation turned off for IF Alignment 2.)

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM TRACKING ADJUSTMENT	
Adjust for maximum VTVM reading.	
87.1 MHz	109.5 MHz
L2, 3	CT2

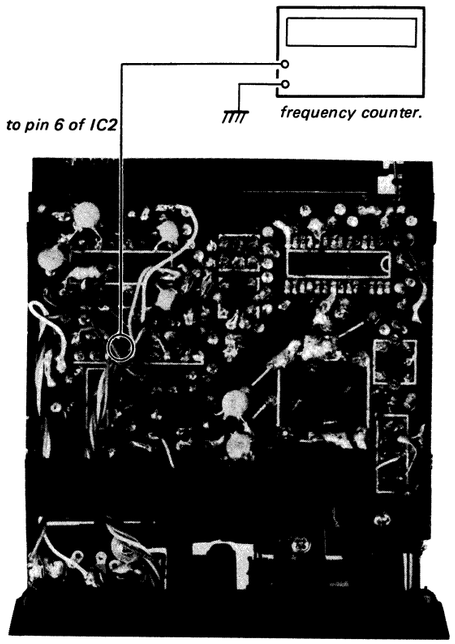
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum VTVM reading.	
87.1 MHz	109.5 MHz
L4	CT1

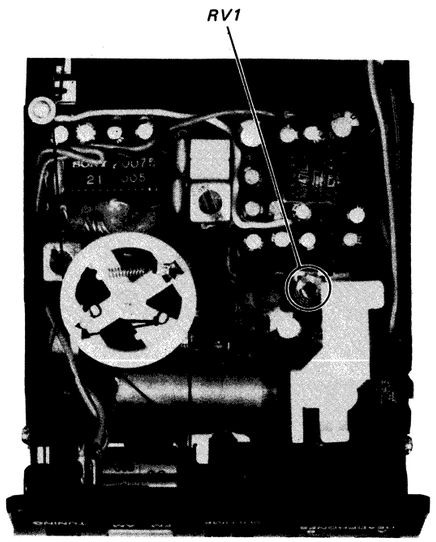


76 kHz Adjustment

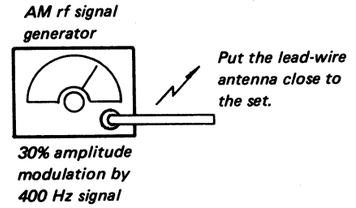
Setting:
S1: FM STEREO

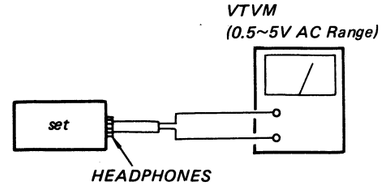
- Adjust RV1 for 76 kHz ±100 Hz on the frequency counter.





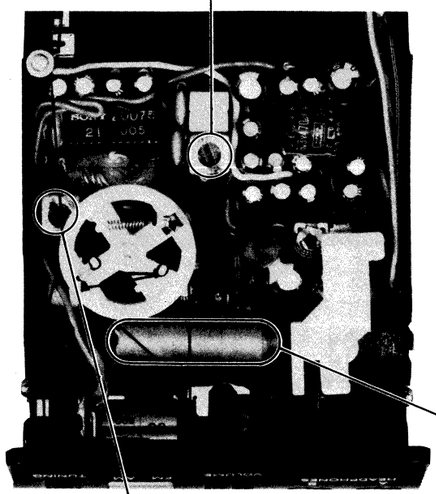
AM SECTION

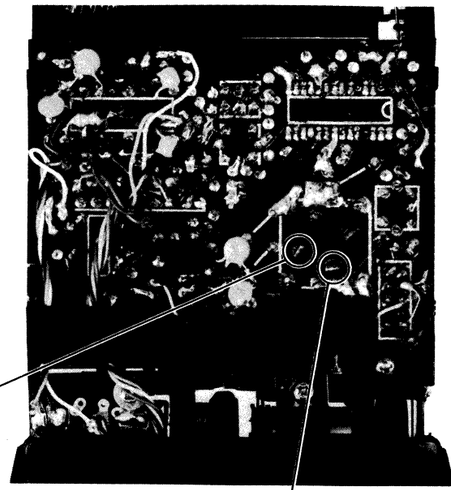




- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ALIGNMENT
Turn the core for maximum VTVM reading.
455kHz
T1





L5	CT3
520 kHz	1,680 kHz
Adjust for maximum VTVM reading.	
AM FREQUENCY COVERAGE ADJUSTMENT	

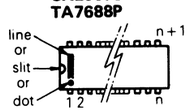
L1	CT4
600 kHz	1,400 kHz
Adjust for maximum VTVM reading.	
AM TRACKING ADJUSTMENT	

SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM
– Conductor Side –

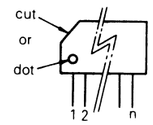
Semiconductor Lead Layouts

CX20075
TA7688P

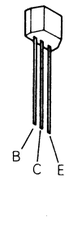


(Top view)

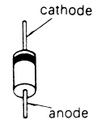
TA7342P



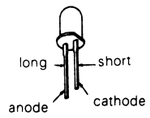
2SC2458

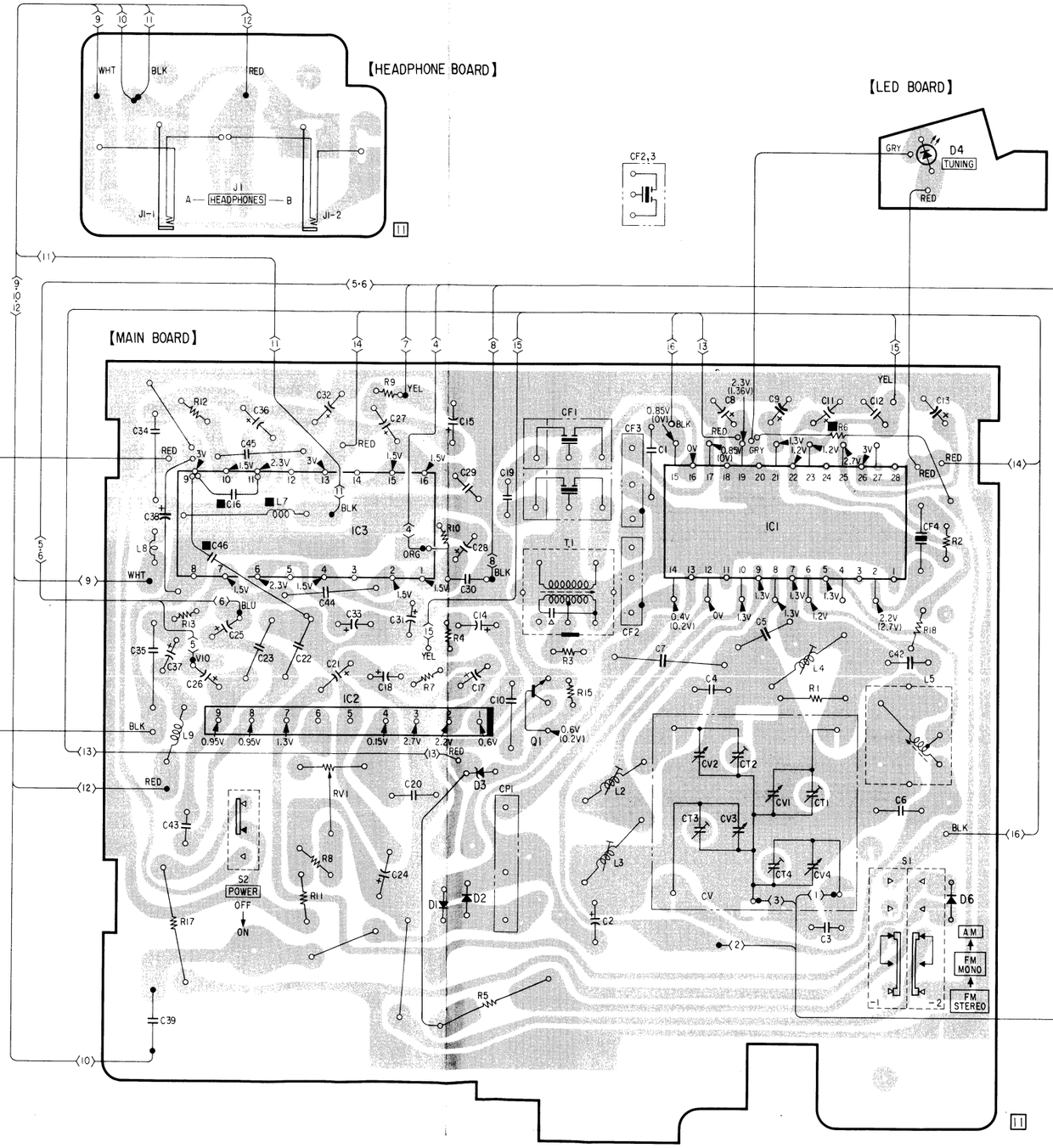


1S1555
RD3.6E-B1



SLP135B



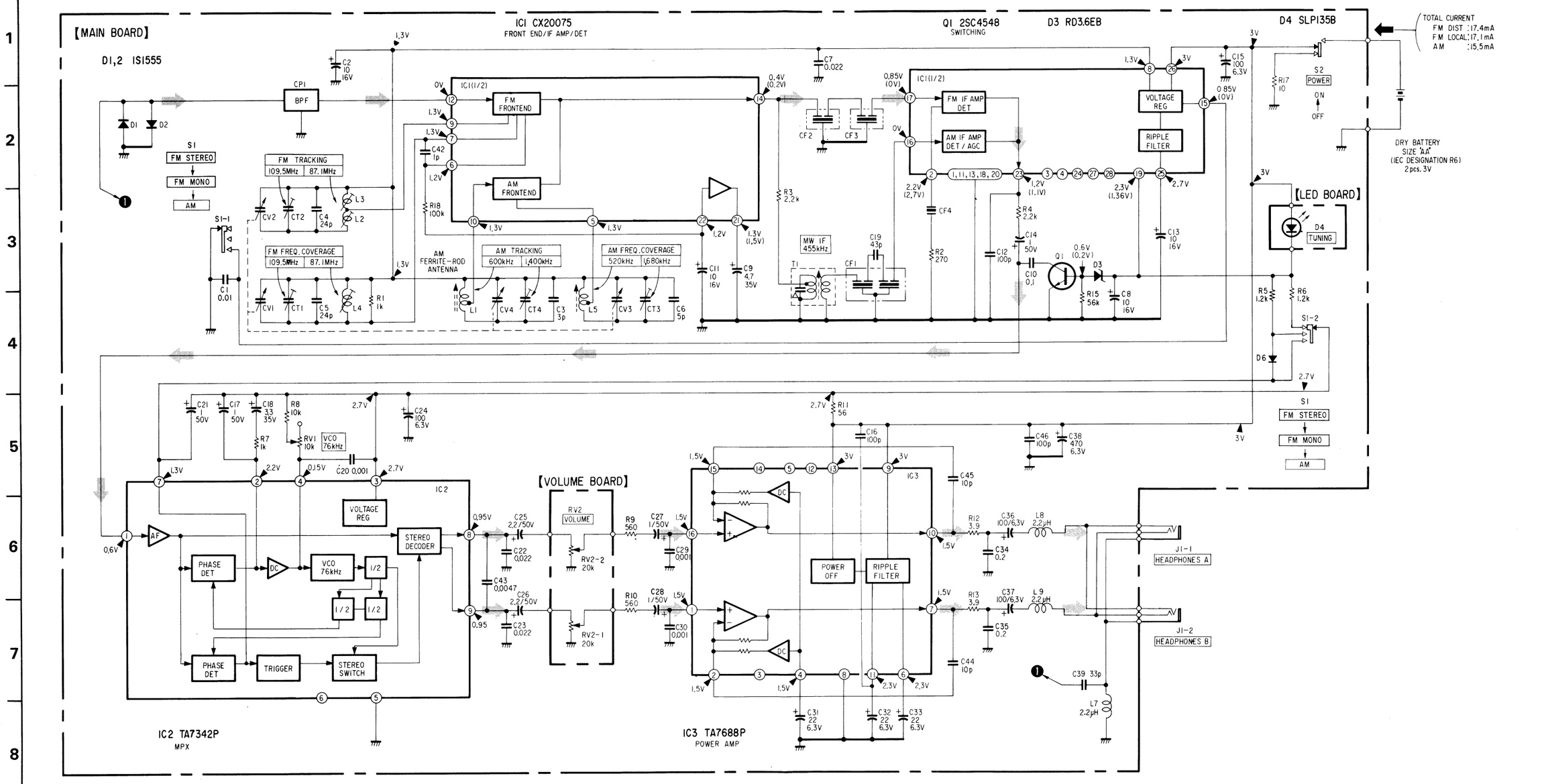


IC, Q	D
IC3, IC1	4
IC2	3
	1, 2, 6
IC, Q	D

Note:

- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]— : indicates side identified with part number.

4-2. SCHEMATIC DIAGRAM



- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM.
  no mark : FM
  ( ) : AM
- Voltage variations may be noted due to normal production tolerances.

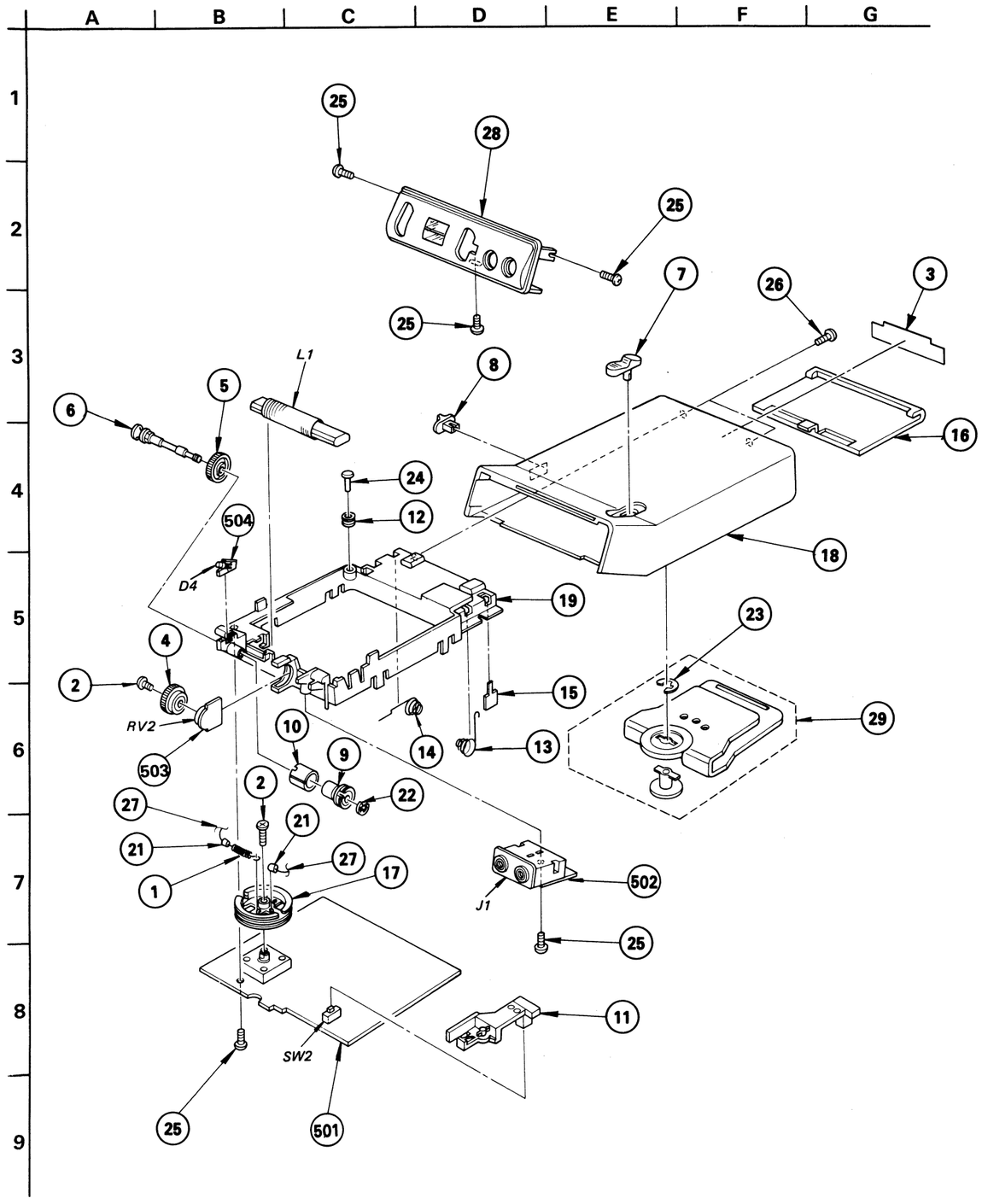
- Switch

Ref. No.	Switch	Position
S1	FM STEREO/FM MONO/AM	FM STEREO
S2	POWER	OFF

- : Signal path

Note: Voltages are measured with a VOM (50kΩ/V).

SECTION 5
EXPLODED VIEW AND PARTS LIST



GENERAL SECTION

No.	Part No.	Description
1	3-303-915-00	SPRING, TENSION
2	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL
3	3-891-733-00	LABEL, MODEL NUMBER (MALAYSIA)
3	3-891-735-00	(AEP)·····LABEL, MODEL NUMBER (TAIWAN)
3	3-891-736-00	(UK)·····LABEL, MODEL NUMBER (TAIWAN)
4	3-891-703-00	KNOB, CONTROL
5	3-891-704-00	KNOB, TUNING
6	3-891-705-00	SHAFT, TUNING
7	3-891-706-00	KNOB, POWER
8	3-891-707-00	KNOB, BAND
9	3-891-709-00	DRUM, SCALE
10	3-891-710-00	RING, SCALE
11	3-891-711-00	JOINTER (A)
12	3-891-713-00	PULLEY
13	3-891-714-00	SPRING (A)
14	3-891-715-00	SPRING (B)
15	3-891-716-00	TERMINAL BOARD, PLUS
16	3-891-719-01	LID, BATTERY CASE (BLUE)
16	3-891-719-11	LID, BATTERY CASE (RED)
17	3-891-721-00	DRUM, TUNING CAPACITOR
18	3-891-722-22	CABINET (BLUE)
18	3-891-722-32	CABINET (RED)
19 ♦	3-891-723-00	CHASSIS, MOLD (TAIWAN)
19 ♦	3-891-743-00	CHASSIS, MOLD (MALAYSIA)
20	.....	
21	7-623-605-01	EYELET, 2×2
22	7-624-104-04	STOP RING 2.0, TYPE -E
23	7-624-109-04	STOP RING 5.0, TYPE -E
24	7-625-108-81	RIVET 2X8
25	7-685-104-11	SCREW +P 2X6 TYPE2 NON-SLIT
26	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT
27	9-911-825-52	STRING, DIAL
28 ♦	X-3891-701-0	ESCUTCHEON ASSY (TAIWAN)
28 ♦	X-3891-704-2	ESCUTCHEON ASSY (MALAYSIA)
29	X-3891-702-0	HOLDER ASSY

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
61	3-701-311-00	LABEL, PRODUCT COLOR (RED)
61	3-701-314-00	LABEL, PRODUCT COLOR (BLUE)
62	3-701-331-00	LABEL, PRODUCT COLOR (RED)
62	3-701-334-00	LABEL, PRODUCT COLOR (BLUE)
63	.....	
64	.....	
65	3-703-485-00	BAG, POLYETHYLENE
66	3-703-709-01	STICKER, SONY SYMBOL (21)
67	3-891-724-00	(AEP)·····INDIVIDUAL CARTON (TAIWAN)
67	3-891-725-00	(UK)····· INDIVIDUAL CARTON (TAIWAN)
67	3-891-725-11	INDIVIDUAL CARTON (MALAYSIA)
68	.....	
69	3-891-727-00	CUSHION
70	3-995-953-11	(AEP)·····MANUAL, INSTRUCTION
71	3-995-953-41	(UK)····· NANUAL, INSTRUCTION
72	8-951-151-91	HEADPHONES, MDR-W3(B) SET

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501 ♦	1-610-165-00	PC BOARD, MAIN (MALAYSIA)
501 ♦	A-3660-451-A	MOUNTED PCB, MAIN (MALAYSIA)
501 ♦	1-610-893-00	PC BOARD, MAIN (TAIWAN)
501 ♦	A-3660-453-A	MOUNTED PCB, MAIN (TAIWAN)
502 ♦	1-610-166-00	PC BOARD, HEADPHONE JACK
503 ♦	1-610-167-00	PC BOARD, VOLUME CONTROL (TAIWAN)
503 ♦	1-610-894-00	PC BOARD, VOLUME CONTROL (MALAYSIA)
504 ♦	1-610-168-00	PC BOARD, LED

C1	1-161-013-00	CERAMIC	0.01MF	10%	25V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C4	1-102-960-00	CERAMIC	24PF	5%	50V
C5	1-102-642-00	CERAMIC	24PF	5%	50V
C6	1-101-997-00	CERAMIC	5PF	0.5PF	50V
C7	1-161-017-00	CERAMIC	0.022MF	10%	25V
C8	1-123-617-00	ELECT	10MF	20%	16V
C9	1-123-615-00	ELECT	4.7MF	20%	35V
C10	1-161-974-00	CERAMIC	0.1MF	0	16V
C11	1-123-617-00	ELECT	10MF	20%	16V
C12	1-102-973-00	CERAMIC	100PF	5%	50V
C13	1-123-617-00	ELECT	10MF	20%	16V
C14	1-123-611-00	ELECT	1MF	20%	50V
C15	1-123-661-00	ELECT	100MF	20%	6.3V

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C16	1-102-973-00	CERAMIC	100PF	5%	50V
C17	1-123-611-00	ELECT	1MF	20%	50V
C18	1-123-613-00	ELECT	3.3MF	20%	35V
C19	1-102-966-00	CERAMIC	43PF	5%	50V
C20	1-104-077-00	POLYSTYRENE	0.001MF	5%	50V
C21	1-123-611-00	ELECT	1MF	20%	50V
C22	1-161-017-00	CERAMIC	0.022MF	10%	25V
C23	1-161-017-00	CERAMIC	0.022MF	10%	25V
C24	1-123-661-00	ELECT	100MF	20%	6.3V
C25	1-123-612-00	ELECT	2.2MF	20%	50V
C26	1-123-612-00	ELECT	2.2MF	20%	50V
C27	1-123-611-00	ELECT	1MF	20%	50V
C28	1-123-611-00	ELECT	1MF	20%	50V
C29	1-161-039-00	CERAMIC	0.001MF	10%	25V
C30	1-161-039-00	CERAMIC	0.001MF	10%	25V
C31	1-123-618-00	ELECT	22MF	20%	6.3V
C32	1-123-618-00	ELECT	22MF	20%	6.3V
C33	1-123-618-00	ELECT	22MF	20%	6.3V
C34	1-101-798-00	CERAMIC	0.2MF		12V
C35	1-101-798-00	CERAMIC	0.2MF		12V
C36	1-123-661-00	ELECT	100MF	20%	6.3V
C37	1-123-661-00	ELECT	100MF	20%	6.3V
C38	1-123-298-00	ELECT	470MF	20%	6.3V
C39	1-102-963-00	CERAMIC	33PF	5%	50V
C42	1-102-934-00	CERAMIC	1PF	0.25PF	50V
C43	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C44	1-102-953-00	CERAMIC	10PF	5%	50V
C45	1-102-953-00	CERAMIC	10PF	5%	50V
C46	1-102-973-00	CERAMIC	100PF	5%	50V
CF1	1-527-865-00	FILTER, CERAMIC			
CF2	1-567-051-61	FILTER, CERAMIC			
CF3	1-567-051-61	FILTER, CERAMIC			
CF4	1-567-051-61	FILTER, CERAMIC			
CP1	1-235-082-00	FILTER, BAND PASS			
CV	1-151-437-00	CAP, TUNING, POLYETHYLENE			
D1	8-719-815-55	DIODE 1S1555			
D2	8-719-815-55	DIODE 1S1555			
D3	8-719-100-18	DIODE RD3.6EB1			
D4	8-719-901-35	DIODE SLP135B			
D6	8-719-815-55	DIODE 1S1555			
IC1	8-752-007-50	IC CX20075			
IC2	1-806-666-00	IC TA7342P			
IC3	1-806-665-00	IC TA7688P			

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
J1	1-507-665-00	JACK			
L1	1-402-032-00	ANTENNA, FERRITE-ROD (MW)			
L2	♦1-426-074-00	COIL, FM RF (A)			
L3	1-406-042-00	COIL, FM OSC			
L4	♦1-422-130-00	COIL, FM OSC			
L5	1-406-062-00	COIL, MW OSC			
L7	1-407-182-XX	MICRO INDUCTOR 2.2UH			
L8	1-407-182-XX	MICRO INDUCTOR 2.2UH			
L9	1-407-182-XX	MICRO INDUCTOR 2.2UH			
Q1	8-729-245-89	TRANSISTOR 2SC2458			
R1	1-247-831-00	CARBON	1K	5%	1/6W
R2	1-247-817-00	CARBON	270	5%	1/6W
R3	1-247-839-00	CARBON	2.2K	5%	1/6W
R4	1-247-839-00	CARBON	2.2K	5%	1/6W
R5	1-247-833-00	CARBON	1.2K	5%	1/6W
R6	1-247-833-00	CARBON	1.2K	5%	1/6W
R7	1-247-831-00	CARBON	1K	5%	1/6W
R8	1-247-855-00	CARBON	10K	5%	1/6W
R9	1-247-825-00	CARBON	560	5%	1/6W
R10	1-247-825-00	CARBON	560	5%	1/6W
R11	1-247-801-00	CARBON	56	5%	1/6W
R12	1-247-773-00	CARBON	3.9	5%	1/6W
R13	1-247-773-00	CARBON	3.9	5%	1/6W
R15	1-247-873-00	CARBON	56K	5%	1/6W
R17	1-247-783-00	CARBON	10	5%	1/6W
R18	1-247-879-00	CARBON	100K	5%	1/6W
RV1	1-230-101-00	RES, ADJ, CARBON 10K			
RV2	1-230-100-00	RES, VAR, CARBON 20K/20K (VOLUME) (TAIWAN)			
RV2	1-230-205-00	RES, VAR, CARBON 20K/20K (VOLUME) (MALAYSIA)			
SW1	1-554-061-00	SWITCH, SLIDE (BAND)			
SW2	1-554-076-00	SWITCH, SLIDE (POWER)			
T1	1-404-355-00	COIL, AM IFT			

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

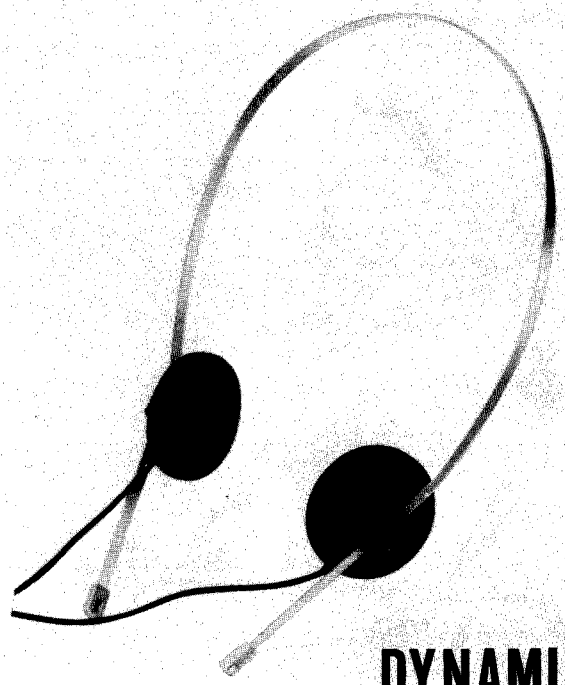
RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

MDR-W3

US Model
Canadian Model
AEP Model
UK Model
E Model
Modèle US
Modèle Canadien
Modèle AEP
Modèle UK
Modèle E



DYNAMIC STEREO HEADPHONES
ECOUTEURS STEREO DYNAMIQUE

SPECIFICATIONS

Type:	Dynamic
Driver Units:	23 mm dia., dome
Impedance:	25 ohms at 1 kHz
Sensitivity:	100 dB/mW
Rated Power:	0.04 W
Power Handling Capacity:	0.1 W
Frequency Response:	20 – 20,000 Hz
Plug:	Stereo mini plug
Cord Length:	1 m
Weight:	26 g (without cord)

Type:	Dynamique
Unites:	Membrane dôme de 23 m diam.
Impédance:	25 ohms à 1 kHz
Sensibilité:	100 dB/mW
Puissance nominale:	0.04 W
Puissance admissible:	0.1 W
Réponse en fréquence:	20 – 20,000 Hz
Fiche:	Fiche mini format stéréo
Longueur du cordon:	1 m
Poids:	Env. 26 g (sans le cordon)

MICROFILM

SONY®
SERVICE MANUAL

1. DISASSEMBLY

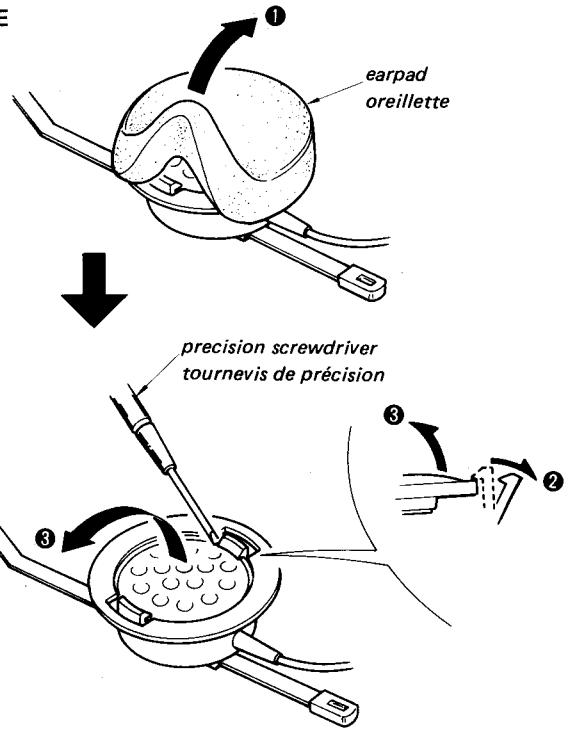
DEMONTAGE

Note: Follow the disassembly procedure in the numerical order given.

Suivre la procédure de démontage dans l'ordre numérique donne.

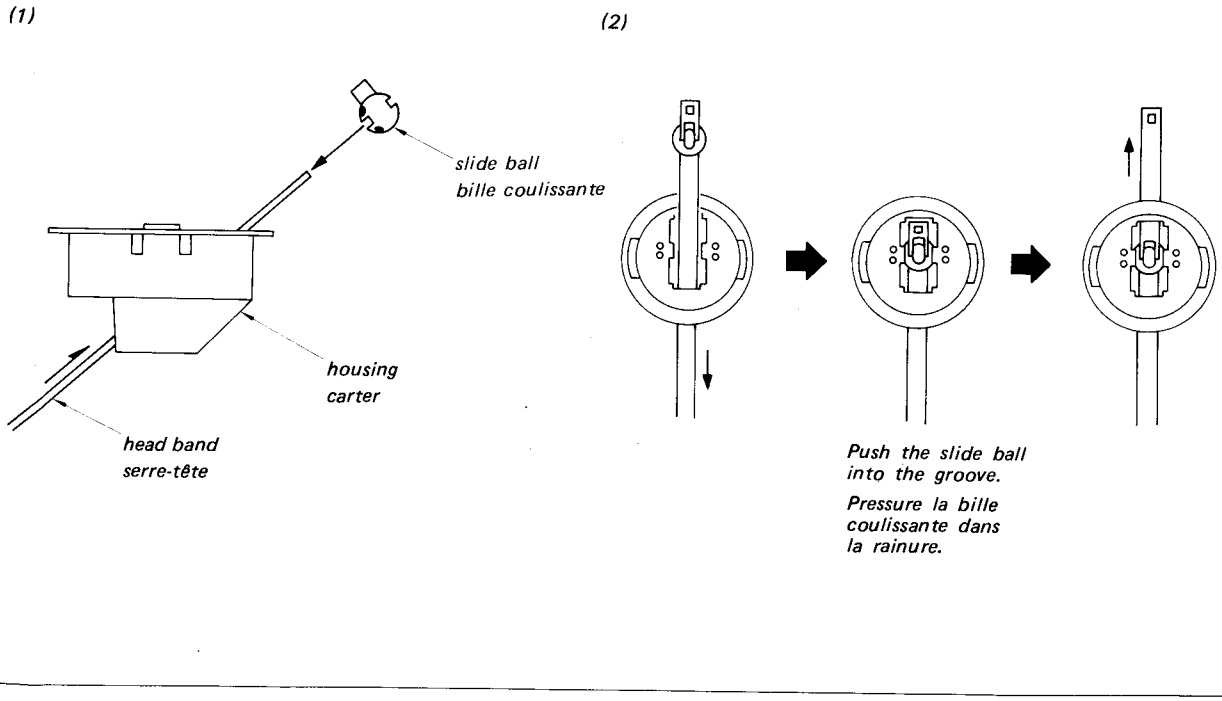
1-1. DRIVER REMOVAL

RETRAIT DE L'UNITE

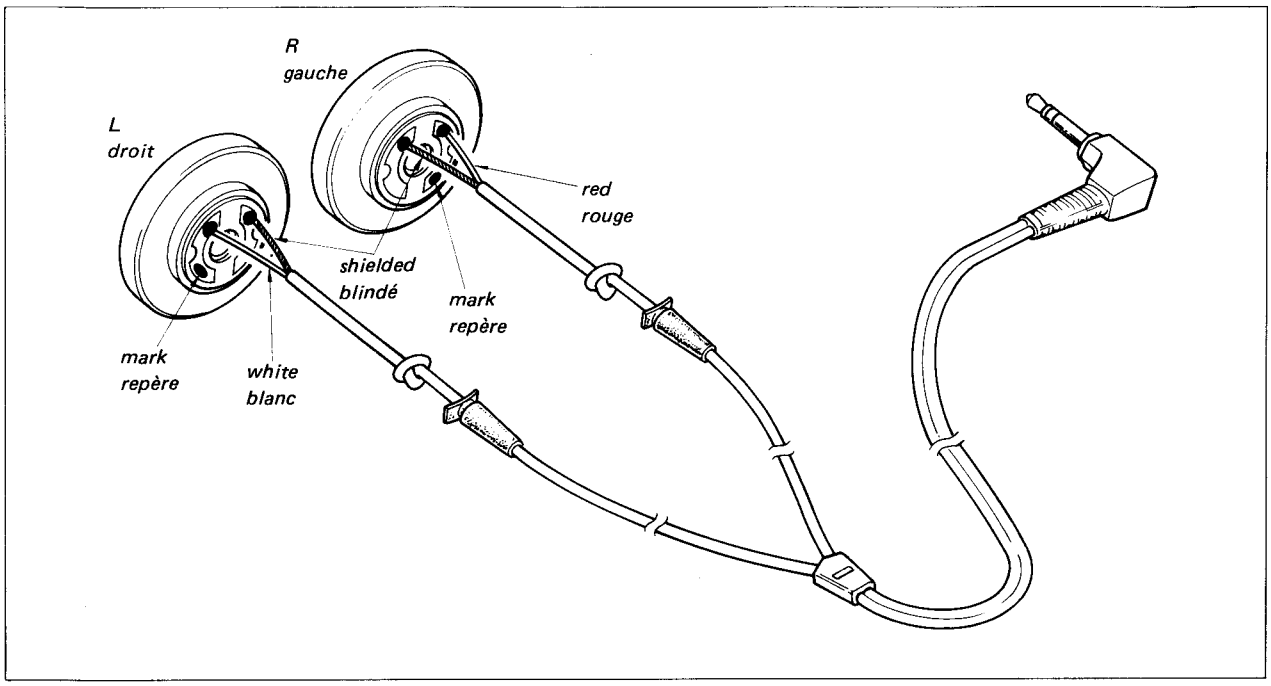


2. REPLACEMENT

REMPLACEMENT



3. WIRING DIAGRAM
SCHEMA DE CONNEXIONS



4. PARTS LIST
LISTES DES PIECES

GENERAL SECTION

No.	Part No.	Description
1	2-373-015-00	BUSHING
2	2-376-313-00	HOUSING
3	2-376-315-00	STOPPER, SLIDE (L)
4	2-376-316-00	(BROWN) ... PAD, EAR
		or
4		(ORANGE) ... PAD, EAR
5	2-376-317-00	BALL, SLIDE
6	2-376-318-00	STOPPER, SLIDE (R)
7	♦.2-376-319-00	HEAD BAND
8	4-865-916-00	SCREEN (D)

ELECTRICAL PARTS

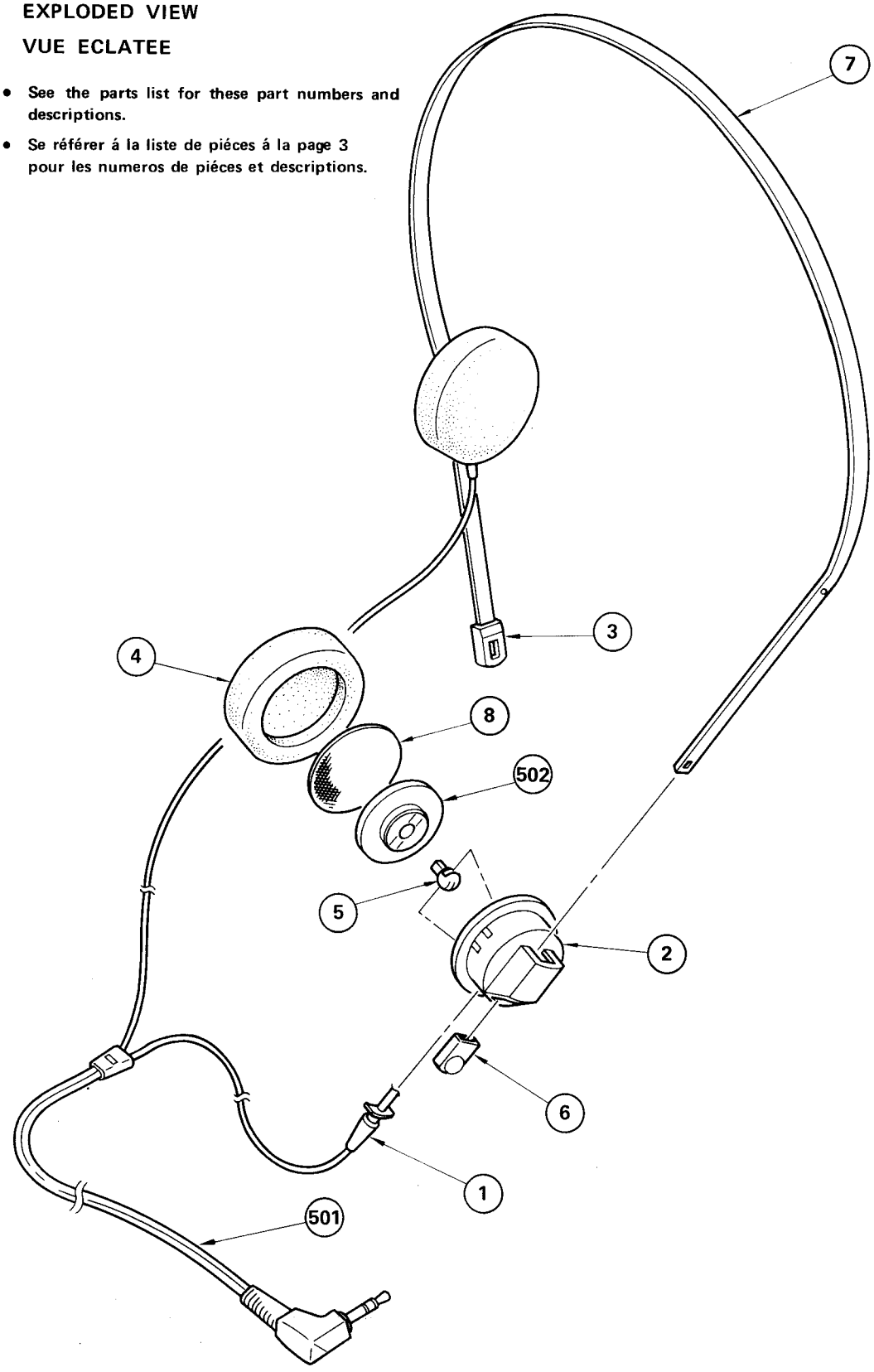
No.	Part No.	Description
501	1-556-803-00	CORD
502	1-505-058-11	DRIVER

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Les pièces avec une marque "♦" ne sont pas stockeés parce qu'elles sont rarement nécessaires pour un dépannage de routine. Si nécessaire, demander les pièces en indiquant le numéro; seulement il faut s'attendre à un certain retard à la livraison.

5. EXPLODED VIEW
VUE ECLATEE

- See the parts list for these part numbers and descriptions.
- Se référer á la liste de piéces á la page 3 pour les numeros de piéces et descriptions.



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